Advances in Bioresearch

ORIGINAL ARTICLE

Use of Pictorial Blood Loss Assessment Chart to Investigate a Severity of Blood Loss among Women with Heavy Menstrual Bleeding

Yousef Rezaei Chianeh [1], Ullas Kamath[2], Pragna Rao*[1]
[1]Department of Biochemistry, [2]Melaka Manipal Medical College, Kasturba Medical College, Manipal University, Manipal - 576104, Karnataka, India.
Email:pragna.rao@manipal.edu

ABSTRACT
To assess the accuracy of a pictorial blood loss assessment chart (PBAC) as a method for estimating menstrual blood loss in women complaining of heavy menstrual bleeding. To investigate whether a pictorial blood assessment chart could be used to asses blood loss pattern during heavy menstrual bleeding. In this study 150 women were included. Along with a questionnaire, pictorial blood assessment chart (PBAC) was applied to investigate the women's bleeding pattern during the menstrual period. The PBAC is based on the visual appearance of stained towels, tampons and the presence of clots. Haemoglobin (Hb) was estimated using Drabkin's method. When the pictorial scores of the participants were evaluated, 7 patients (4.9%) had a score between100-150,23 patients (15.3%) had between 150-200, 79 patients (52.5%) had between 200-250 and 41 (27.3%) patients had a pictorial score greater between250-300. During menstruation, 79.8% of women using 5 or more pads daily for 10-15 days had a pictorial score greater than 200, 15.3% of women using 5 or more pads daily for 5-10 days had a pictorial score greater than 150. 100% of patients were anaemic. We recommend the use of pictorial blood assessment chart for the diagnosis of menorrhagia and evaluation of the treatment outcomes.
Keywords: Menorrhagia, Heavy menstrual bleeding (HMB), pictorial blood loss assessment chart (PBAC).

How to cite this article:
Y R Chianeh, U Kamath, P Rao. Use of Pictorial Blood Loss Assessment Chart to Investigate a Severity of Blood Loss among Women with Heavy Menstrual Bleeding. Adv. Biores., Vol 8 [1] January 2017: 35-38**.**

INTRODUCTION

Gynaecological health is an important component of any woman's health status. Gynaecological disorders can have a substantial impact on many aspects of quality of life, including reproductive ability, sexual functioning, mental health, and the ability to work and to perform routine physical activities.

Several studies have been conducted to examine gynaecological conditions associated with hysterectomy. These studies have consistently found that the most common principal diagnosis among women having hysterectomy is uterine fibroids [1,2].

Other common indications for hysterectomy are uterine prolapse, endometriosis, menstrual disorders, and cancer [3]. However, little is currently known about the prevalence of these and other gynaecological conditions in the general population, and impact of these conditions on health care system usage, lost work days, and other activity limitations.

Excessive bleeding (heavy, frequent or prolonged) of uterine origin, which is not due to complications of pregnancy, or to readily detectable pelvic pathology or systemic disease, acute or chronic predominantly ovulatory or anovulatory a true endometrial or Hypothalamic-Pituitary-Ovarian (H-P-O) dysfunction effectively a diagnosis of exclusion; but what do you exclude - and how? The recent FIGO classification of AUB (Abnormal Uterine Bleeding) is the PALM-COEIN classification and for diagnostic purpose the pattern in figure 1 should be evaluated in patients [Figure 1].
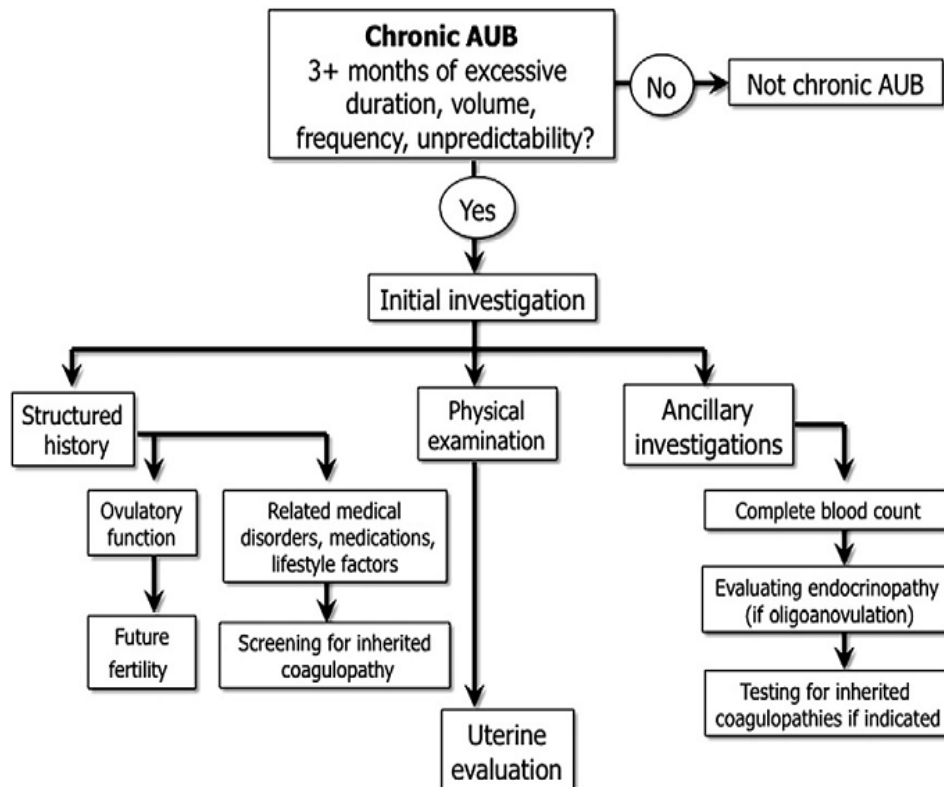
This figure represents the first step for evaluation of abnormal uterine bleeding (AUB) [4].

World Health Organization (WHO) definitions of abnormal menstrual bleeding patterns based on a daily record taken for 90 days:

Amenorrhea – no bleeding or spotting.

Prolonged bleeding – at least 1 bleeding/spotting episode lasting 10 days or more.

Frequent bleeding – more than 4 bleeding/spotting episodes.

Infrequent bleeding – fewer than 2 bleeding/spotting episodes.

Irregular bleeding – range of lengths of bleeding/spotting free intervals >17 days.

Abnormal uterine bleeding (AUB) is a common problem amongst women and accounts for 20% of gynaecology office visits[5]. It is defined as abnormal uterine bleeding in the absence of organic disease (excessively heavy, prolonged, or frequent intervals of bleeding), complications of pregnancy or systemic disease [6,7].The spectrum of abnormal uterine bleeding comprises of menorrhagia (heavy periods; blood loss >80 ml), metrorrhagia (prolonged, irregular periods), polymenorrhoea (frequent periods), oligomenorrhoea (scanty and infrequent periods), amenorrhoea (absentmenstrual periods), intermenstrual bleeding and postcoital bleeding. There is limited data on reproductive implications in Indian women with AUB. The aim of this study was to investigate the pattern and severity of blood loss among women with heavy menstrual bleeding referring to department of obstetrics and gynaecology, Kasturba hospital. We also studied the effect of exposure to copper as people usually store water in copper container in this geographical area on having an impact on complications of AUB in women with respect to mimicry action of copper in angiogenesis as manifestation of AUB.

MATERIALS AND METHODS

In this study 150 women were included. Along with a questionnaire, pictorial blood assessment chart was applied to investigate the women's bleeding pattern during the menstrual period. Statistical Package for Social Sciences, version 15 for Windows (SPSS South Asia Bangalore) was used for statistical analysis.

Pictorial blood assessment chart:

We used the original pictorial blood assessment chart defined by Higham *et al.* [8]. This original scoring system was based on the visual appearance of stained towels, tampons and the presence of clots. It was devised to allow comparison between perceived and actual blood loss [Table 1].

RESULTS

Mean age of the 150women was 37.98 years of all women 71.9%were between 35-45 years. Among all women responding the questionnaire, 53.3% had menstruation every 10-15 days, 36.5% had menses every 15-20 days, 10.2% had every 20-28 days. All women were complaining of heavy menstruation. The menstruation lasted more than 12 days in 97% of patients, 9-11 days in 3% of patients. During menstruation, 121 women (80.6%) used 5 or more pads heavily stained as well as towel for more than 5 days, 12 women (8%) used big size pads and women (11.4%) used towel and observed clot in many occasion. When the pictorial scores of the participants were evaluated,120 patients (80%) had a score higher than 200,23patients(15.3%) had between 150-200, 7 patients (4.7%) had between 100-150. Of the women 100% using 5 or more pads as well as towel during menstruation had a pictorial score greater than200, 38.4% of women used big size pads had apictorial score greater than 150 and 71.8% of women using towel and passed clot during menstruation had a pictorial score greater than 100.All of the patients were anaemic with haemoglobin concentration of 9.12±1.23 (g/dl).

DISCUSSION

The menorrhagia, which is excessively heavy menstrual bleeding, is a common clinical problem among women of reproductive age group. It is defined as a total menstrual blood loss greater than 80 ml per menstruation [9].It is usually hard to quantify menstrual blood loss objectively as it requires highly specialized techniques and a lot of time. As a consequence, menorrhagia is defined subjectively in clinical practice which is prone to many errors. Pictorial blood assessment chart (PBAC) is a simple non-laboratory method for semi-objective diagnosis of menorrhagia, using scores recorded by women themselves [8]. It was first described by Higham *et al* [8]. A score of 100 was used to define menorrhagia in its originally described form [8]. The scoring was based on the number of sanitary towels and tampons used each day and their degree of soiling. The number and size of any clots passed were also taken into account and scored. Although the validity of this chart has been debated [10], it is simple to use and at present the best practical tool available for the assessment of menstrual blood loss. The method has been reported to have a sensitivity of 86% and a specificity of 89% [8].

The gold standard 'alkaline haematin method' in the evaluation of menstrual bleeding is difficult to employ and interpret. Pictorial blood assessment chart consider being a good and practical alternative in the assessment of menstrual bleeding. The sensitivity and specificity of the method and the appropriate cut-off value for Indian women are to be determined with future studies in this subject. We highly recommend the use of the pictorial blood assessment chart as a means to help many women who suffer from heavy menstrual bleeding and as a way to encourage health workers to give more attention to this neglected aspect of female health.

Figure1. Demonstrate the initial evaluation for a diagnosis of chronic abnormal uterine bleeding (AUB).

Table 1. Pictorial blood assessment chart

TOWELS
1 point For each lightly stained towel
5 points For each moderately soiled towel
20 points If the towel is completely saturated with blood

TAMPONS
1 point For each lightly stained tampon
5 points For each moderately soiled tampon
10 points If the tampon is completely saturated with blood

CLOTS
1 point For small clot
5 points For large clot

Although medical treatment options are available, a significant proportion of women may require hysterectomy, and its psychological and social impact on many women have led to its designation as a public health problem [11-14].

ACKNOWLEDGMENTS

DISCLOSURE SUMMARY

The authors have no conflicts of interest to declare.

REFERENCES

1. Lieng M, Qvigstad E, Istre O, Langebrekke A, Ballard K. Long-term outcomes following laparoscopic supracervical hysterectomy. BJOG: An International Journal of Obstetrics & Gynaecology 2008; 115(13):1605-1610.
2. Brett Kate M, Jane VR Marsh, Jennifer H Madans. "Epidemiology of hysterectomy in the United States: demographic and reproductive factors in a nationally representative sample." Journal of Women's Health 1997; 6.3: 309-316.
3. Wu J M, Wechter M E, Geller E J, Nguyen T V, Visco A G. Hysterectomy rates in the United States, 2003. Obstetrics & Gynecology 2007; 110(5):1091-1095.
4. Munro M G, Critchley H O, Broder M S, Fraser I S. FIGO classification system (PALM-COEIN) for causes of abnormal uterine bleeding in nongravid women of reproductive age. International Journal of Gynecology & Obstetrics 2011;113(1): 3-13.
5. Khandhadiya, P. K., Yousef Rezaei Chianeh, and R. Pragna. "Role of serum copper and ceruloplasmin level in patients with dysfunctional uterine bleeding." Int J Reprod Contracept Obstet Gynecol2014;3.2: 333-334.
6. Rafi A, Devaki R, Sabitha K, Mohanty S, Rao P. Importance of Serum Copper and Vascular Endothelial Growth Factor (VEGF-A) Levels in Postmenopausal Bleeding. Indian Journal of Clinical Biochemistry 2013; 28(2): 147-151.
7. Chianeh YR, Rao P. Molecular and hormonal regulation of angiogenesis in proliferative endometrium. Int J Res Med Sci 2014;2:1-9.
8. Higham JM, O'Brien PM, Shaw RW. Assesment of menstruel bloodloss using a pictorial chart. BR J Obstet Gynaecol 1990;97:734-9.
9. Biri A, Bozkurt N, Korucuoglu U, Yilmaz E, Tiras B, Guner H. Use of pictorial chart for managing menorrhagia among Turkish women. Turkish-German Gynecol Assoc 2008; 9(1): 35-7.
10. Reid PC, Coker A, Coltart R. Assessment of menstrual blood loss usinga pictorial chart: a validation study. BJOG 2000;107:320-2.
11. Cromwell DA, Mahmood TA, Templeton A, van der Meulen JH. Surgery for menorrhagia within English regions: variation in rates of endometrial ablation and hysterectomy. BJOG2009; 116:1373–1379.
12. Santer M, Warner P, Wyke S. A Scottish postal survey suggested that the prevailing clinical preoccupation with heavy periods does not reflect the epidemiology of reported symptoms and problems. J Clin Epidemiol 2005; 58:1206 –10.
13. Warner P, Critchley HO, Lumsden MA, Campbell-Brown M, Douglas A, Murray G. Referral for menstrual problems: cross sectional survey of symptoms, reasons for referral, and management. Br Med J [Clin Res] 2001; 323:24–8.
14. Gath D, Osborn M, Bungay G, Iles S, Day A, Bond A, et al. Psychiatric disorder and gynaecological symptoms in middle aged women: a community survey. Br Med J [Clin Res] 1987; 294:213– 8.